

Hello, everyone

The LMSAL and Oslo groups want to run another Hinode/IRIS/SST campaign starting in late September, HOP 257. The tentative dates are 23 September – 6 October, but the end date may change, due to technical work being done at SST. There is an IRIS team meeting in Stockholm this week, which will produce a more specific set of science goals and observing programs, but the initial plan is as follows.

1. Chromospheric heating (statistical approach)

- large SP rasters
- large 400 step rasters from IRIS
- large EIS rasters

2. Chromospheric heating (dynamics)

- fast SP rasters
- fast IRIS rasters (details TBD)
- EIS TBD

3. Spicule formation

- fast SP rasters, when on disk
- fast IRIS rasters (details TBD, could be different from point 2)
- EIS TBD

We can fill out the form for this or make a new HOP number, if required; I have some references to publications from previous runs of HOP 257.

This is the campaign that conflicts with the proposal from Verma et al, that we deferred in the last meeting (submitted HOP # 1). Note that his proposal only asked for SOT support. I have been in touch with Verma and told him we could give him full support on 19–22 September and probable support in the BBSO/NSO time periods on 23–30 September; and I suggested that if he can observe the SST target, then he may get data during the Gregor time that is similar to what he requested. He was satisfied with this and said he has received BBSO time for 20–25 September and was still waiting to hear about NSO.

Cheers,

Ted

## HINODE Operation Plan (HOP)

accepted on \_\_\_\_\_

HOP No.	HOP title
HOP 0257	SST-IRIS-Hinode campaign

**plan term**                      2014/08/30-2014/10/09  
   2015/09/03-2015/10/14

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### abstract of observational proposal

<2015>

Coordinated observing campaign using the Swedish Solar Telescope on La Palma, IRIS and Hinode is scheduled for September 3 - October 14, 2015. Observers at the SST will be from Oslo and LMSAL for this entire period. The goal is to obtain very high cadence, high spatial resolution observations of the photosphere & chromosphere with CRISP to accompany the IRIS spectra and images of the chromosphere and transition region. CRISP data will allow measurement of line profiles for Doppler shifts and polarization for some magnetic field information above the photosphere. Hinode will contribute precise photospheric fields with SOT/SP, magnetogram evolution with SOT/NFI and coronal images and spectra with XRT and EIS.

IRIS & SST will have a number of science goals, listed here in no particular order. Priorities will depend to some extent on how much good data is obtained during the June IRIS/SST campaign. There are a variety of targets: AR sunspot, AR plage, QS, CH, filament on disk, and AR, QS, CH. (Prominence targets are not included because the SST adaptive optics system won't work above the limb.) For IRIS, the IRIS coordination calendar has the appropriate IRIS OBS to use for each priority.

- A. Chromospheric Heating in QS/AR/CH: for Hinode, SOT: large FOV SP scans, NFI magnetograms; EIS: EIS study 373; XRT: Al poly filter images at 30s with FOV 384"x384"
- B. Bombs and flux emergence in AR: for Hinode similar to HOP 268 (not for IRIS) but with NFI magnetograms
- C. Jets in CH/QS: for Hinode, HOP 243
- D. Previously Unresolved Fine structure: for Hinode, HOP 243
- E. Penumbral jets: AR sunspot; for Hinode, HOP 250
- F. Spicules at the limb: QS or CH limb; for Hinode, HOP 249

The best coordination time is from 8:30 am to noon La Palma time, which is 07:30 UT to 11 UT. During this La Palma time (7:30 to 11 UT), IRIS will focus on high cadence runs, such as sit-and-stare, small or medium rasters. A single target will be chosen for each day's observing in this time period. The IRIS planner would typically schedule large raster scans for context before or after the La Palma time, so that high cadence programs are run during La Palma time.

Every day from 11 UT to 17 UT, IRIS and SST will perform flarewatch on the most promising active region. Hinode is invited to do the same using its standard flarewatch programs.

<2014>

Coordinated observing campaign using the Swedish Solar Telescope on La Palma, IRIS and Hinode is scheduled for August 30 - October 9, 2014. Observers at the SST will be from Oslo and LMSAL for this entire period. The goal is to obtain very high cadence, high spatial resolution observations of the photosphere & chromosphere with CRISP to accompany the IRIS spectra and images of the chromosphere and transition region. CRISP data will allow measurement of line profiles for Doppler shifts and polarization for some magnetic field information above the photosphere. Hinode will contribute precise photospheric fields with SOT/SP, magnetogram evolution with SOT/NFI and coronal images and spectra with XRT and EIS.

IRIS & SST will have a number of science goals, listed here in no particular order. Priorities will depend to some extent on how much good data is obtained during the June IRIS/SST campaign.

There are a variety of targets: AR sunspot, AR plage, QS, CH, filament on disk, and AR, QS, CH. (Prominence targets are not included because the SST adaptive optics system won't work above the limb.)

- A. Chromospheric Heating: QS/AR/CH
- B. Moss: AR plage; similar to IHOP 247
- C. Rapid Blueshifted Excursions (RBEs): AR plage
- D. Jets in CH/QS: CH/QS network
- E. Penumbral jets: AR sunspot; see IHOP 250
- F. Previously Unresolved Fine Structure (UFS): QS on disk
- G. Bombs and flux emergence in AR
- H. Spicules at the limb: QS or CH limb; IHOP 249

The best coordination time is from 9 am to noon La Palma time, which is 08 UT to 11 UT. During this La Palma time (8 to 11 UT), IRIS will focus on high cadence runs, such as sit-and-stare, small or medium rasters. A single target will be chosen for each day's observing in this time period.

The IRIS planner would typically schedule large raster scans for context before or after the La Palma time, so that high cadence programs are run during La Palma time.

Every day from 11 UT to 17 UT, IRIS and SST will perform flarewatch on the most promising active region. Hinode is invited to do the same using its standard flarewatch programs.

#### **request to SOT**

Run suitable SP and FG program for the target of the day, running larger maps when IRIS does so and higher cadence programs when IRIS does. The IRIS planner may choose programs described in one of the IHOPs (243 &#8211; 250) for a particular target.

#### **request to XRT**

Run suitable imaging program for the target of the day. The IRIS planner may request a program described in one of the IHOPs (243 &#8211; 250) for a particular target.

#### **request to EIS**

Run suitable studies for the target of the day. The EIS CO may choose to do a large map covering the IRIS FOV when IRIS does a large raster, then switch to a faster cadence program when IRIS does dynamics or wave programs. The IRIS planner may request a program described in one of the IHOPs (243 &#8211; 250, 254) for a particular target.

**other participating instruments**

IRIS:

The IRIS planner must submit his/her plan by 19 UT on Mondays - Fridays; the Friday plan runs for 3 days. No changes whatever are possible after ~21 UT of each weekday. The IRIS planner will announce the target type (one of the above list) for each day's observing in the 8-11 UT period at least 2 days in advance, so the Hinode daily meeting can plan to coordinate with suitable programs. More specific pointing information will be provided in time for the Hinode daily meeting before uplink. The AR for flarewatch in 11-17 UT will also be announced.

SST:

The observers at the SST will follow the IRIS target every day during the prime observing time of 8-11 UT, and usually during the flarewatch time of 11-17 UT.

**remarks**

Links to the IRIS timelines, pointings, and coordination calendar may be found at:

<http://iris.lmsal.com/operations.html>